Case No.: 07-CV-3716 (RWS) in the U.S. District Court for the Southern District of New York

## **DECLARATION OF MICHAEL A. SOMMER II, PH.D.**

- I, Michael A. Sommer II, Ph.D., do hereby declare as follows:
- The following is based on my personal knowledge and a review of the materials listed.

#### MY BACKGROUND

- 2. I am an expert in forensic environmental chemistry including the products of the chemical composition of organic substances and their fate in the environment.
- I have over thirty years of experience as a chemist and I have extensive experience in identifying, characterizing, and assessing chemicals released into the air, soil and water.

- 4. I use my knowledge of the fate of chemical substances in calculating exposure levels and dose concentrations for individuals exposed to toxic substances in the ambient air.
- 5. I have testified in federal and state courts, and arbitrations concerning environmental chemistry and the nature and fate of organic substances in the air, soil, water and chemical products including the composition of treated and untreated lumber. About 75% of my investigations and testimony are legal defense related, the other 25% for plaintiffs.
- 6. I currently serve on the Board Of Directors of the federal 501 (c) 3 designation organization CLEAN (Citizens League for Environmental Action Now), and as the Principal Scientist for Air Analysis of organic substances in direct proximity to various emission sources.
- 7. As an owner of the environmental testing and consulting laboratory, Consolidated Sciences Inc., I designed and performed air analysis under the USEPA Contract Laboratory program for superfund sites for the characterization and interpretation of the reaction products of toxic organic substances.
- 8. I own and operate a gas chromatography/mass spectrometry laboratory that was used for the development of ambient air test methods by the EPA.
- 9. All of my investigations are performed without prejudice and my clients are made to understand that my conclusions are based only on science. My reports are always prepared without any interference from the client of substance that might alter my conclusions.
- 10. A copy of my CV is attached as Exhibit "A."

### **REVIEW DOCUMENTS AND SCOPE OF RETENTION**

- 11. I have reviewed the following documents provided by the Plaintiffs (copies of these documents are found in Exhibit "B").
  - I. Norfolk Maritime Surveyors, Inc., Report dated 19 May 2005.
  - II. Norfolk Maritime Surveyors, Inc., Report dated 02 June 2006.
  - III. EMSL Analytical, Inc., Report dated 24 June 2005

### **DOCUMENTS I USED TO PREPARE MY DECLARATION**

- 12. I have also reviewed a copy of the following documents (copies of these documents are found in Exhibit "C"):.
  - I. National Marine Consultants Inc. Report dated May 18 2005
  - II. Marine Consultants Inc. Report dated May 27 2005
- 13. I have also used the following documents in the review of this matter:
  - I. Toxicology Data Network (TOXNET), Hazardous Substance Data Bank (HSDB) PROPERTIES OF CYCLOHEXANE.
  - II. COMPENDIUM OF METHODS FOR THE DETERMINATION OF TOXIC ORGANIC COMPOUNDS IN AMBIENT AIR, U.S. Environmental Protection Agency (EPA/625/R-96/010b), January 1999.
  - III. Treatment composition which provides anti-wrinkling properties to textiles United States Patent 6290867
  - IV. Journal of industrial textiles vol. 10 no. 2 136-150 (1980) The Structure-Property Relationships of Polyurethanes Designed for Coated Fabrics

14. I have been retained by counsel for Maersk to review the claim documents submitted by plaintiffs and to comment on their allegation that the cargo of ladies garments was contaminated with cyclohexane from the prior cargo of lumber. I am being compensated at the rate \$175 per hour for my services.

#### PLAINTIFFS STATEMENT OF FACTS AND THEIR CONCLUSIONS

- 15. I note the following from the documents I have reviewed:
- 16. In the Nortfork Maritime report dated 19 May 2005 they observed and concluded that:

"It's my own unofficial opinion that too much of whatever chemicals that's used to keep the clothing from wrinkling was used during the manufacture of some of the pieces in the container and that is what is causing the odor."

17. In the Nortfork Maritime report dated 02 June 2006 they observed that:

"When the doors to MAEU600017-6 [ed. The subject container] were opened it was reported that there was a very strong foul odor inside the container. Notes written on one document during the opening described it as a "Diesel Fuel Odor" (Bates: P000000013). The container had been stowed overall with 12,624 garments consisting of ladies blouses and skirts in various sizes. Each garment was on a separate individual plastic hanger and individually wrapped in a clear poly bag that was folded and tape closed at the bottom. Prior to loading the garments the entire interior of the container was lined with large sheets of clear polyethylene that had been taped to the underside of the roof, the sides and the floor. A large flap of this material hung from the after end of the roof and separated the doors from the after face of stow (Bates: P000000014). On 23 May 2005, the samples of sealed bags containing contaminated clothing along with a bag containing a sound samples taken from the second container were forwarded to the laboratory EMSL Analytical Inc., of Westmont, NJ". (Bates: 000000015).

18. Nortfork Maritime report dated 02 June 2006 stated:

"that in speaking with the laboratory technician they remarked that when the bag with the samples was first opened in the laboratory, one technician mentioned the odor reminded him of preserved wood". (Bates: P000000015). 19. In the EMSL Analytical, Inc. report dated July 5, 2005 they observed and concluded as follows:

> "An aliquot of the trapped air inside the bag that contained the odorous skirt and blouse was sampled and analyzed. Below is a list of compounds found by EMSL:

Compound detected	Comments
Cyclohexane	Used in pesticide as a solvent.
	Also used in some wood preservation
	formulations
Toluene	Can be found in gasoline and spray paint
Ethylbenzene	As above
Xylene	As above
Styrene	Plastic monomer

The major volatile component found was cyclohexane. Cyclohexane is used as a vehicle or (sic) dissolving solvent for pesticide concentrates. It is also used as an alternative solvent or (sic) environmental friendly nonozone-depleting dry cleaning agent, and as a solvent for wood preservative preparations. The remaining four components are commonly found as a group in gasoline". (Bates: 000000044)

20. In their summarizing report dated 02 May 2006 Norfolk Maritime concluded as follows:

> "CAUSE OF DAMAGE, In our opinion the cause of the odor which contaminated the garments originated from the cargo previously carried in the container (Bates: P000000016). Samples of the clothing tested by an independent laboratory found the predominate (sic) present of the chemical Cyclohexane. This chemical is in the material used to preserve wood. This previous cargo in the container was lumber, later identified as

probably telephone poles. These are items that would definitely be treated with a wood preservative and in our opinion was the source of the odor ". (Bates: P000000016)

#### MY CONCLUSIONS

- I. The EMSL Report Is Incomplete
- 21. Norfolk Maritime reported that they sent samples of garments from the contaminated and uncontaminated containers to EMSL Analytical Inc. for testing. EMSL stated that they received these samples and analyzed both using EPA Method TO-15. The EMSL report dated July 5, 2005 observed and concluded that the trapped air inside the bags revealed the presence of cyclohexane, toluene, ethylbenzene and styrene. However, EMSL reports only the results for the 'contaminated bag' and has failed to produce the results for the sound samples. EMSL concluded that the odor in the container was, at least in part, due to the presence of cyclohexane, which EMSL states is used as a environmental friendly non-ozone-depleting dry cleaning agent. and as a solvent for wood preservatives.
- 22. EMSL failed to follow even the most basic requirements of EPA Method TO-15, a method which is designed to determine the concentrations (how much of a substance) from a specific list of airborne organic volatile chemicals. EPA Method TO-15 requires that the lab follow a detailed set of procedures. EMSL has not provided a scintilla of the required QA/QC data, the calibration data, the GCMS Ion Chromatographs, mass spectral library conformations – the list goes on.

23. I have produced and reviewed hundreds, if not thousands, of ambient air analyses using EPA Method TO-15 and TO-14. The EMSL report is noteworthy in its failure to properly determine either the composition (what chemicals are present) or the concentrations (how much of the chemicals) that were present in the air inside the sealed garment bags or the ambient air inside the subject container. The absence of this data makes it virtually impossible to evaluate the composition of the air in the container or inside the sealed garment bags at the time of loading.

# II. The Norfolk Maritime and EMSL Reports Do Not Support The Conclusion That The Garments Were Contaminated By Wood Preservatives

- A. Cyclohexane Is Not Used As A Wood Preservative
- 24. The Norfolk Maritime report dated 02 June 2006 attributes the contamination of the garments to the previous cargo carried in the container, a shipment of lumber. Norfolk Maritime speculates that the lumber was treated with cyclohexane as a preservative, which caused the contamination of the garments (Bates: 000000016). This conclusion is not correct.
- 25. I have extensive expertise on the chemicals used as preservatives of wood.
  Cyclohexane is not used as a wood preservative. The most common wood preservatives include coal tar creosote with heavy fuel oil extenders, pentachlorophenol and/or arsenic, chromium and copper.
- 26. Based on the EMSL report there is no evidence that samples of the ambient air inside the container were ever collected so it is impossible to know the

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composition of this air. All we know for certain is that the air inside the sealed garment bags was contaminated with cyclohexane, gasoline BTEX components and styrene. These chemicals are not used as preservatives in wood.

- ₿. There Are No Reports Of A Strong Odor Within The Container Prior To Stuffing The Garments
- 27. In the Norfolk Maritime report dated 02 June 2006 they stated that prior to loading the garments the entire container was lined with large sheets of clear polyethylene that had been taped to the underside of the roof, the sides and the floor. A large flap of this material hung from the after end of the roof and separated the doors from the after face of the stow. As the container was in possession of cargo interests during the preparation and stuffing, any evidence of the strong odor in the container would have been readily apparent at that time. In fact, given that cyclohexane, toluene, ethylbenzene, xylene and styrene rapidly evaporate in air the odor in the container would have been vastly more intense at the time the container was stuffed than at the time the surveyors examined the container on May 12 and 17 2005. In the absence of any reports or protests regarding an odor at the time of stuffing, it is only possible to conclude that the subject container was odor free prior to stuffing the garments.

# III. The Cyclohexame Contamination Is Attributable To Preshipment Manufacture And Preparation Of The Garments

- 28. Cyclohexane is commonly used in the manufacture of Nylon, dry cleaning chemicals, garments, as well as an agent to prevent wrinkling prior to shipment.
- 29. I conclude that the odor in the container, which has been attributed to cyclohexane by Norfolk Maritime and EMSL, originated from the manufacturing and/or preshippment preparation of the garments.
- 30. My conclusion is consistent with the opinion of plaintiff's surveyor as set forth in his contemporaneous report of May 19, 2005 wherein he concluded that "too much of whatever chemicals that's used to keep the clothing from wrinkling was used during the manufacture of some of the pieces in the container and that is what is causing the odor".
- I, Michael A. Sommer II, Ph.D., pursuant to 28 U.S.C. § 1746, do hereby declare under penalty of perjury that the foregoing is true and correct. I reserve the right to amend or add additional information to this Declaration as becomes available.

	AM Danu
27 November 2007	
Dated	Michael A. Sommer II, Ph.D